

IN THE CLAIMS

Please amend the claims to read as follows:

1. (currently amended) An ultrasonic diagnostic imaging system which acquires images of differently oriented image planes of a patient in rapid succession comprising:

- a probe including a two dimensional array transducer;
- a beamformer, coupled to the array transducer, for scanning beams over a variety of different directions and inclinations with respect to the array transducer;
- a beamformer controller programmable to scan beams over differently oriented image planes in a sequence of image planes until acquisition of the image planes has been completed;
- an image processor coupled to the beamformer;
- a display coupled to the image processor;
- a plane orientation control, coupled to the beamformer controller, for adjustment of the orientation of an image plane relative to selected anatomy;
- a storage device responsive to the plane orientation control and operative to store a parameter of image plane orientation selected by operation of the plane orientation control; and
- an acquisition control, coupled to the beamformer and responsive to the stored parameter, for initiation in a diagnostic exam of the acquisition of a sequence of image planes in the selected orientation with respect to the selected anatomy.

2. (original) The ultrasonic diagnostic imaging system of Claim 1, further comprising a source of patient heart waveforms coupled to the beamformer controller.

3. (original) The ultrasonic diagnostic imaging system of Claim 1, wherein the image processor further comprises a contrast agent image processor.

4. (currently amended) The ultrasonic diagnostic imaging system of Claim 1, wherein the plane orientation control further comprises a manually operated user control; and wherein the storage device further comprises:

a storage device for storing scanning parameters for a plane orientation selected by the user control.

5. (currently amended) The ultrasonic diagnostic imaging system of Claim 4, further comprising a plurality of imaging parameters which may be adjusted by a user; and

wherein the storage device further comprises a storage device for storing adjusted imaging parameters.

6. (original) The ultrasonic diagnostic imaging system of Claim 5, wherein the beamformer controller is responsive to stored scanning parameters and imaging parameters upon activation of the acquisition control.

7. (original) A method for performing the acquisition of ultrasonic images of a plurality of differently oriented image planes in rapid succession comprising:

aiming a first image plane of a two dimensional array probe through an acoustic window of a body;

reaiming the image plane through the acoustic window to image a second image plane of a different orientation than the first image plane;

storing information defining the orientation of the second image plane; and

initiating a sequence of image acquisition which acquires an image of the first image plane followed by an image of the second image plane by use of the stored information.

8. (original) The method of Claim 7, wherein reaiming further comprises reaiming the image plane through the same acoustic window as that of the first image plane.

9. (original) The method of Claim 8, further comprising storing information defining the orientation of the first image plane,

wherein initiating further comprises using the stored information of the first image plane.

10. (original) The method of Claim 7, further comprising infusing the body with an ultrasonic contrast agent.

11. (original) The method of Claim 10, further comprising, following infusing, applying stress to the body and, following applying, repeating the initiating step.

12. (original) The method of Claim 10, wherein the body comprises the heart and wherein the myocardium of the heart is infused with the contrast agent.

13. (original) The method of Claim 12, wherein, in the aiming and reaiming steps, the first image plane comprises one of an AP4, AP2, or AP3 view of the heart, and the second image plane comprises a different one of an AP4, AP2, or AP3 view of the heart.

14. (original) The method of Claim 7, further comprising adjusting an image parameter after at least one of the aiming and reaiming steps; and
storing the adjusted image parameter for each step,
wherein initiating further comprises using the stored adjusted image parameter during image acquisition.

15. (original) A method for acquiring diagnostic ultrasound images of the heart comprising:
maintaining a two-dimensional array probe in contact with an acoustic window of a body to image a first plane of the heart;
imaging a second plane of the heart by selective change of the beam steering while maintaining the probe in contact with the acoustic window;

storing information describing the orientation of the first and second planes;

introducing a contrast agent into the myocardium of the heart;

acquiring a heart cycle waveform of the heart; and

acquiring images of the first and second planes of the heart by use of the stored information and in synchronism with the heart cycle waveform.

16. (original) The method of Claim 15, wherein acquiring further comprises acquiring images of the first and second planes during a single waveform.

17. (original) The method of Claim 16, wherein acquiring further comprises acquiring another set of images of the first and second planes a predetermined number of heart cycles following the first acquiring of images.

18. (original) The method of Claim 15, wherein acquiring further comprises acquiring an image from a different plane in successive heart cycles.

19. (original) The method of Claim 15 further comprising:
following the first acquiring of images of the first and second planes of the heart, increasing the heart rate; and
following increasing the heart rate, acquiring for a second time images of the first and second planes of the heart by use of the stored information and in synchronism with the heart cycle waveform.

20. (original) The method of Claim 16, wherein acquiring images of the first and second planes of the heart further comprises acquiring less than all of the scanlines of the first and second planes alternately until complete images of the first and second planes have been acquired.